

REMARKS

The title has been re-stated to clarify the title of the pending application. The application title has always been: "USING A MICROMACHINED MAGNETOSTATIC RELAY IN COMMUTATING A DC MOTOR", however some of the previous filings by the applicants had erroneously used the word "COMMUNICATING" in place of "COMMUTATING" in reference to the title. No new matter is added by this re-statement of the title.

Reconsideration and allowance of claims 1-6 is requested.

Claims 1-6 remain pending and under consideration, with claims 1 and 6 being independent.

For the reasons set forth on pages 2-8 of the office action mailed October 5, 2001, claims 1-6 stand rejected under 35 USC §103(a) as allegedly being unpatentable over various combinations of Brailsford (USP 4,475,068), Posey (USP 5,293,523), Bornand (USP 5,605,614), Tai et al. (USP 6,094,116) and Tanikoshi (USP 3,900,780). These rejections and their underlying rationale are traversed.

Independent claim 1 is directed to a DC motor having a MEMS relay "comprising one or more anchors in direct contact with the first substrate, where said magnetic actuation plate and said one or more anchors are formed of permalloy material...".

Independent claim 6 is directed to a DC motor having a MEMS relay that includes "a springing beam etched on the substrate, said springing beam comprising one or more anchors in direct contact with said substrate, where said springing beam and said one or more anchors are formed of permalloy material".

The art of record fails to disclose or suggest the combination of features recited in independent claims 1 or 6.

In support of the rejection of claims 1-3 and 6 the Examiner states on page 5 of the office action that Tai et al. discloses "the magnetic actuation plate (6) comprises one or more anchors (1) in direct contact with the first substrate (2)." This characterization of Tai is incorrect. Tai at Column 5, lines 12-25, discloses a micro-relay having "a first layer 1 of magnetic material... laid down on a substrate..., an electromagnetic coil 3 created in the magnetic circuit with(in) this first layer 1... Finally, a second layer 4 of very efficient magnetic material is laid down in (a) magnetic circuit with the first two layers 1,3..." As is clearly shown in Figure 1c of Tai, the magnetic actuation plate 4 (cantilever beam 6) is physically separated from the first layer of permalloy material 1. Furthermore, Tai states the advantage of having layer 1 and layer 4 as separate layers, at column 6, lines 1-5: "Eliminating the core make for easier fabrication as well as permitting the

first and second layers **1,4** of magnetic material to be electrically isolated." Therefore, Tai cannot properly be characterized as having a MEMs relay that comprises: "anchors in direct contact with the first substrate" as required by applicants' claims 1 and 6.

Examiner is also directed to applicants' Figure 4a-4e and the supporting disclosure at page 13, lines 4-12, which disclose the fabrication and configuration of an exemplary MEMs relay comprising "anchors in direct contact with the first substrate" as required by applicants' claim 1 and 6.

The Examiner also included a discussion of Bornand to support the rejections of claim 1-3 and 6. Specifically, the office action states on page 4-5 that Bornand "discloses a magnetic actuation plate (14) micro-machined on a first substrate, such that a magnetostatic actuation force causes the magnetic actuation plate to align itself with the magnetic field (column 4, lines 38-43) the magnetic actuation plate having a first conductive surface (12, 13); and Bornand discloses a *second substrate* (1) provided adjacent to the magnetic actuation plate...". This characterization of Bornand as having first and second substrates is incorrect. As described in the abstract of Bornand, the microcontactactor comprises: "a flexible beam (5) in one or more conducting materials (13,14,15) having one end (4)

attached to an insulating substrate (1)...". Bornand's beam (5) is formed of **conducting** layers (13-15) and has opposite qualities of the insulating substrate ("second substrate") required by Applicants' claims 1-6. Furthermore, the fabrication of Bornand's microcontactor is shown in Figs. 5-13 and is described from Column 2, line 50 to Column 3, line 17. Notably, only one substrate is shown and described in Bornand. Therefore, Bornand does not describe or suggest the "first substrate" and "second substrate" recited by applicants' claims 1-5.

The Examiner attempts to provide some motivation to combine the cited references in discussion of Posey on page 4 of the office action: "Posey discloses that the springing beam (42) includes a magnetic material (50) which, in the presence of a magnetic field, creates a magnetostatic actuation force that causes the electrically conductive elements *to apply power to or remove power from at least one of the windings by switching from one of the switching states to another of the switching states.*" This characterization of the purpose of Posey's configuration is incorrect. Posey merely discloses a magnetic proximity detector.

Posey does not describe or suggest "applying power to or removing power from at least one of the windings of" a motor, as the Examiner suggests.

With regard to the proposed combination of Brailsford and Posey and the proposed combination of Brailsford, Bornand and Tai, it is well established that in order for any prior art references to be validly combined in a prior art 35 USC §103 rejection, the references themselves (or some other prior art) must suggest that they be combined (see MPEP §2143). In the present case, there is no reason given by the Examiner, and no reasons or suggestions found in the cited references, to support the proposed combinations. Applicants submit the various proposed combinations of Brailsford, Posey, Bornand, Tanikoshi and Tai are improper and the rejection should be withdrawn.

Furthermore, the Examiner is directed to MPEP §2143, entitled "Basic Requirements of a *Prima Facie* Case of Obviousness":

"To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion of motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings.

Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all of the limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success **must be found in the prior art, not in the applicants' disclosure.** In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)." (emphasis added).

The Examiner simply has not provided any teaching or suggestion from the prior art to make any of the proposed combinations of Brailsford, Posey, Bornand, Tanikoshi and Tai. The rejection of claims 1-6 based on the proposed combinations of Brailsford, Posey, Bornand, Tanikoshi and Tai represents classic hindsight reconstruction, improperly using applicants' claim as a template to reconstruct the invention by picking and choosing isolated disclosures from the prior art.

This is impermissible as a matter of law.

For example, one of the cases cited in MPEP §2143.01 is in *In re Fine*, 837 F.2d at 1075, 5 USPQ2d at 1600. In *In re Fine* the court said: "[o]ne cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to

deprecate the claimed invention." The present rejection fits the court's description of what may not be done under § 103. The Examiner has merely listed certain components of applicants' invention and then located isolated disclosures of those components in various different references. The law requires more than that.

Finally, even if arguendo the proposed combinations of Brailsford, Posey, Bornand, Tanikoshi and Tai were suggested, none of the proposed combinations would anticipate or render obvious applicants' claims. Specifically, applicants' claim 1 recites: a "magnetic actuation plate comprising one or more anchors in direct contact with the first substrate, where said magnetic actuation plate and said one or more anchors are formed of permalloy material."

Similarly, applicants' claim 6 recites: a "a springing beam etched on the substrate, said springing beam comprising one or more anchors in direct contact with said substrate, where said springing beam and said one or more anchors are formed of permalloy material." None of the prior art cited - - whether taken alone or in combination - - describe or suggest the features recited in applicants' claims 1 and 6, respectively.

Accordingly, claims 1 and 6 are allowable for the reasons discussed above. The remaining claims each depend directly or

indirectly from one of the independent claims discussed above. Accordingly, these dependent claims are allowable for the reasons that their respective independent claims are allowable and for reciting allowable subject matter in their own right. Independent consideration and allowance of the dependent claims are requested.

A check is enclosed for a one month extension of time.

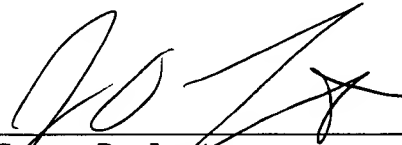
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No. 06-1050.

Respectfully submitted,

Date: \_\_\_\_\_

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